GUIDELINES FOR ASSESSING AND DOCUMENTING CUMULATIVE IMPACTS

BUREAU OF LAND MANAGEMENT

April 1994

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ILLUSTRATIONS

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CHAPTER I - INTRODUCTION

A. Purpose of Cumulative Impact Guidelines

These guidelines are intended to be used by the Bureau of Land Management (BLM) when incorporating Cumulative Impact Assessment (CIA) principles into the preparation of Environmental Assessments (EAs) and Environmental Impact Statements (EISs), and in meeting other requirements of the National Environmental Policy Act (NEPA).

The guide is also intended to assist managers and others in fully considering cumulative impacts in the decision making process. This includes applying CIA to the preparation of EAs and EISs associated with Resource Management Plans and activity plan preparation. With these objectives in mind, Table 1 has been provided, listing and summarizing several cumulative impact analysis principles that will be covered in this guide. As the principle comes up in the text, they will appear in italics.

These guidelines emphasize the full consideration of cumulative impacts in the NEPA process. The need for such consideration is supported in several court and IBLA rulings as summarized in Appendix C.

Cumulative Impact Assessment (CIA) is not a process or a document that is separate from NEPA, but rather an integral part of the NEPA process. However, only in the past few years has the phrase, "cumulative impact assessment," become prominent in court cases and in common usage. Federal agencies, including BLM, have, for the most part, learned to identify whether an EA or an EIS is the appropriate document to prepare. Consequently, law suits based on the requirement of doing an EIS instead of an EA are far less frequent than in earlier years. Recent emphasis in the courts and in management has moved toward more sophistication and refinement in the NEPA process, including the requirement that cumulative impacts be appropriately considered.

There is always danger of "setting CIA apart from NEPA" in people's minds, with a specialized directive such as this. Since NEPA and the Council on Environmental Quality (CEQ) regulations do not identify CIA as a separate analytical process, cumulative impacts must be considered along with direct and indirect impacts in assessing environmental effects on the human environment.

Cumulative Impacts are being treated here in a focused guidance document due to both the difficulty and controversy associated

with CIA well as public interest, litigation, and the many procedural questions associated with adequately addressing cumulative impacts in NEPA documents. These guidelines are also intended to help assure the public, other government agencies and special interest groups that cumulative impacts are being adequately assessed when land use management decisions are made.

Ultimately, of course, it is not better documents but better decisions that matter [40 CFR 1500.1(c)]. Hopefully these guidelines will help achieve that goal.

This guide is intended to be an idea reference, not a directive for any particular methodology. Most BLM environmental impact statements (EISs) and many environmental analysis (EAs) currently being completed analyze cumulative impacts to some degree. Hopefully, this guide will help the reader refine these efforts and improve on document accuracy and utility as time goes along.

As a starting point, the guide is organized to first give the reader some basic cumulative impact assessment (CIA) "principles" to think about (Table 1). These principles are highlighted throughout the guide, as relevant points are made. Also as a quick reference, some of the most frequently asked questions are presented (Table 2). It is suggested that the reader browse through these two tables before proceeding further.

The guide is formatted to run on Work Perfect 5.1, including all illustrations. It is suggested that the program be installed on your computer so that the Search function (Shift-F2) can be used to quickly find points of interest.

TABLE 1

CUMULATIVE IMPACT ASSESSMENT "PRINCIPLES"

1. **CUMULATIVE IMPACTS CAN RESULT FROM INDIVIDUALLY MINOR BUT COLLECTIVELY SIGNIFICANT ACTIONS TAKING PLACE OVER A PERIOD OF TIME.**

   Seemingly insignificant actions can add up or synergistically interact to cause important negative influences on the environment.

2. **CUMULATIVE IMPACTS ARE THE TOTAL EFFECT, INCLUDING BOTH DIRECT AND INDIRECT IMPACTS, ON A GIVEN RESOURCE OR ECOSYSTEM OF ALL ACTIONS TAKEN, NO MATTER WHO (FEDERAL, NON-FEDERAL OR PERSON) HAS TAKEN THE ACTIONS.**

   Individual impacts may, over time or over a larger space, add up or interact to cause additional effects (cumulative impacts), not apparent when looking at the individual impacts one at a time. All influences on a given resource or ecosystem should be considered as a whole, not just those influences that occur on public lands or in a particular field of interest.

   Such impacts must also be added to past/present/future effects caused by actions taken by other entities, insofar as they also cumulatively impact the same specific resource.

3. **CUMULATIVE IMPACTS NEED TO BE ANALYZED IN TERMS OF THE SPECIFIC RESOURCE OR ECOSYSTEM BEING IMPACTED.**

   There needs to be an understanding of how components of a given ecosystem interrelate and where these systems are most susceptible to impacts. Potential actions can then be measured against these known vulnerable points.

   Impacts should be analyzed in terms of how the health,

viability or sustainability of the impacted resource or ecosystem is affected, not in terms of what is needed for success of the proposed action.

4. **CUMULATIVE IMPACTS MAY RESULT FROM THE BUILDUP OF REPEATED ACTIONS OR FROM THE SYNERGISTIC INTERACTION OF MULTIPLE ACTIONS.**

   Actions taken may cause impacts to build up through simple addition (more and more of the same type of action), or impacts may occur as a result of the synergistic interaction of multiple actions (various actions add up to cause a new kind of impact).

5. **EACH RESOURCE MUST BE ANALYZED IN TERMS OF ITS OWN TIME AND SPACE PARAMETERS, NOT IN TERMS OF THE PROPOSED ACTION.**

   Each proposed action or alternative should be analyzed to see how it would impact the time and space needs of the ecosystem or resource in question.

   There is a tendency to think in terms of how to modify the ecosystem to permit the proposed action to take place, but this is "justification", not impact analysis.

6. **CUMULATIVE IMPACTS ARE CAUSED BY THE AGGREGATE OF PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS.**

   Impacts of a proposed action on a given resource must include what present and future impacts will occur when added to the impacts that have already taken place in the past.

7. **IT IS NOT PRACTICAL TO ANALYZE THE CUMULATIVE IMPACTS OF AN ACTION ON THE UNIVERSE: THE LIST OF ENVIRONMENTAL EFFECTS MUST BE NARROWED TO THOSE THAT ARE TRULY MEANINGFUL.**

   Environmental Analysis must be limited to issues and impacts that are the most important to interested parties and the decision maker, since time and money is limited.

8. **CUMULATIVE IMPACTS ON A GIVEN RESOURCE OR ECOSYSTEM ARE RARELY ALIGNED WITH POLITICAL OR ADMINISTRATIVE BOUNDARIES.**

   There is a tendency to put resources into neat little boxes with sides built of agency boundaries, county lines, grazing allotments, etc. Unfortunately, impacted resources are not so aligned, and each political entity ends up managing only a small piece of a given resource but rarely the entire ecosystem.

9. **CUMULATIVE IMPACTS CANNOT BE ANALYZED UNLESS THE PROPOSED ACTION AND ALTERNATIVES ARE CLEARLY STATED AND UNDERSTOOD.**

Impacts are assessed against the action(s) being proposed; it therefore follows that impacts may be overlooked or based on the wrong assumptions if the proposed action is not clearly stated. The proposed action must be described in terms of all its components over the entire project life.

10. **RFFA SCENARIOS ARE PROJECTIONS MADE ONLY FOR THE PREDICTION OF FUTURE IMPACTS. THEY ARE NOT ACTUAL PLANNING DECISIONS OR RESOURCE COMMITMENTS.**

These are projections of possible future actions that would be set in motion by implementing the proposed action. They are intended only for use in helping to predict future impacts, including cumulative impacts. They are not intended to be resource commitments and are not a part of the proposed action.

11. **CUMULATIVE IMPACTS MAY LAST FOR MANY YEARS BEYOND THE LIFE OF THE ACTION THAT CAUSED THE IMPACTS.**

Some actions cause damage lasting far longer that the life of the action itself (mine drainage, species extinction, radioactive waste, etc.). Science and sophisticated analytical processes must be brought into play to help us foresee and head off catastrophic consequences.

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Table 2

FREQUENTLY ASKED QUESTIONS ABOUT CUMULATIVE IMPACTS

1. SHOULD CUMULATIVE IMPACTS BE CONSIDERED IN EAs?

   Yes. CEQ intended agencies to evaluate cumulative impacts in EAs to help determine whether an EIS is required. The courts have established a broad standard for determining significance based on a comprehensive analysis of possible direct, indirect and cumulative effects. The analysis is not limited to the effects of the proposed action, but must consider all "past, present and reasonably foreseeable future" actions as well.

2. HOW FAR IS IT NECESSARY TO GO IN ADDRESSING PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS?

   This is a difficult question because each situation is different. CEQ did not expect agencies to conduct extensive analysis of possible impacts of other actions for minor EAs, and a common sense approach is best to avoid unnecessary data collection and analysis. The scope of the analysis should be based on the resource complexity of the area in which the impacts of the proposed action will be felt and the degree of other activity in that area. If an EIS is required, then the analysis should focus on actual "proposals" rather than on less imminent actions such as possible future scenarios.

3. IS ANY DOCUMENTATION NEEDED IF THERE ARE NO CUMULATIVE IMPACTS?

   Minor actions will usually not have cumulative impacts. For disclosure, the EA should specifically indicate that there are no cumulative impacts, and should include a brief explanation to support the negative declaration.

4. WHAT ARE THE ELEMENTS OF AN ADEQUATE CUMULATIVE IMPACT ANALYSIS?

NEPA requires an agency to look beyond the proposed action and immediate project site in analyzing cumulative impacts. The analysis should include reference to the following:

a. the geographical area in which the impacts will occur.

b. the direct and indirect impacts of the proposed action.

c. description of other past, present and reasonably foreseeable future actions that have or can be expected to cause impacts in the geographical area.

d. the impacts predicted from those other actions.

e. the overall impact of b and d.

5. IS THERE A REQUIRED EA OR EIS FORMAT FOR CUMULATIVE IMPACTS?

There is no required format; however, including a separate comprehensive analysis of cumulative impacts has been preferred by the court, and is generally more effective than fragmenting the analysis by area or resource.

6. CAN ANALYSIS OF CUMULATIVE IMPACTS BE LIMITED TO IMPACTS CAUSED BY BLM ACTIONS?

No. The Council on Environmental Quality (CEQ) regulations make it clear that an agency must consider other past, present or reasonably foreseeable future actions "regardless of what agency (federal or non-federal) or person undertakes such other actions."

7. IS IT NECESSARY TO CONSIDER CUMULATIVE IMPACTS IN A SITE SPECIFIC EA IF THEY WERE PREVIOUSLY ADDRESSED IN A PROGRAMMATIC EIS SUCH AS AN RMP?

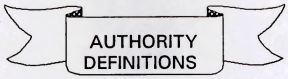
In many cases, no. As long as the existing analysis is still valid there is no need to repeat the analysis process. The EA prepared for the site specific action should incorporate that existing analysis by reference. If conditions have changed substantially, or the original analysis has been shown to be inaccurate, additional cumulative impact analysis may be required.

8. WHAT IS A "CUMULATIVELY SIGNIFICANT EFFECT"

A cumulative significant effect can occur when minor incremental effects of various related or unrelated actions combine to create a significant aggregate effect. These effects can be additive or synergistic and can trigger the need to prepare an EIS. For example, small seemingly isolated projects such as fencing projects, timber harvesting or individual gas wells, can add up to cause significant impacts (blocking migration of large ungulates, fragmentation of wildlife habitat, visual impacts, soil disturbance, etc.)

9. SHOULD AN ECOSYSTEM APPROACH BE USED TO EVALUATE CUMULATIVE IMPACTS?

It depends on the specific resources being affected. Some resources such as soil, wildlife and vegetation may be conducive to an ecosystem approach, while others such as air, cultural resources and visual resources may not relate to ecological boundaries. Social and economic considerations may require a market area or other basis of analysis to be meaningful.



B. Authority

1. Legislation. National Environmental Quality Act of 1970

2. Regulations. 40 CFR Part 1500 (NEPA), 43 CFR Part 1600 (Planning)

3. Manuals. BLM MS 1790 (NEPA), 516 DM (Departmental Manual)

4. Handbook. H-1790-1 (NEPA)

C. Definitions

A common language for cumulative impacts is just beginning to develop among local, state and Federal land managing agencies, researchers and institutions. Parts 1500, 1502 and 1508 of the CEQ regulations specify the purpose, policy and mandate for NEPA compliance and environmental impact assessment to include cumulative impacts. These guidelines use the definitions adopted by the Council on Environmental Quality (CEQ) as given in section 1508, as discussed below:

1. Cumulative Impact. **Cumulative impact** is the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. **Cumulative impacts** can result from individually minor but collectively significant actions taking place over a period of time 940 CFR 1508.7).

2. Direct and Indirect Effects. "Effects" include: (a) **Direct effects**, which are caused by the action and occur at the same time and place, and (b) **Indirect effects**, which are caused by the action and are later in time or further removed in

distance, but are still reasonably foreseeable. **Indirect effects** may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effects and impacts as used in these guidelines are synonymous (40 CFR 1508.8).

For example, consider the effects of gravel road construction on the Air Quality resource. Dust caused by construction of a gravel road is a direct impact--occurring only during the time of construction (same time and place). Dust caused by users of the road will go on for the entire life of the road--perhaps 50 years or more. This is an indirect effect since the impacts occur much later in time. Cumulative impacts on air quality would include dust caused by all the roads (and all other dust producing actions) in the area, no matter who caused them, over the same 50-year period.

Cumulative impacts are the total effect on a given resource or ecosystem of all actions taken, no matter who (Federal, non-Federal or person) has taken the action.

3. Specific Resource. A specific resource is a component of the environment potentially impacted by a proposed action or set of actions. This is a resource considered by management, the public or other entities as having properties worthy of protection or being given special management attention. These are features of the environment, usually identified through scoping by the political or social community, as being important enough to justify consideration in the decision making process.

Cumulative impacts need to be analyzed in terms of the specific resource or ecosystem being impacted.

Ultimately, each individual impacted resource or ecosystem must be analyzed separately. Otherwise, it is not possible to determine how the impacts of a particular action or group of actions interact or add to all the other impacts being imposed on that specific impacted resource to cause cumulative effects.

4. Reasonably Foreseeable Future Action (RFFA). These are scenarios developed to depict "reasonably foreseeable future actions" (abbreviated RFFAs) as referenced in 40 CFR 1508.7. RFFAs refer to future action projections or estimates prepared to show the chain of operations or procedures that are likely to take place when a given proposed action is implemented. They are not a part of the proposed action but are projections being made so that future impacts, cumulative and otherwise, can be estimated as required by NEPA. Reasonably Foreseeable Development (RFD), used in mineral programs, essentially means

the same thing as RFFA. However, Reasonably Foreseeable Future Action or RFFA is used in this document to more clearly portray that all actions, not just development, are included.

CHAPTER II - IMPACT CONCEPTS AND ANALYSIS

A. Introduction

BLM is faced with an increasingly complex array of project proposals that require analysis in our NEPA documents. These projects include the interaction of many conflicting issues and values that frequently involve, both by action and by impact, adjacent lands managed by private, tribal, state and other federal agencies. Most major proposals consist of a series of related and connected actions that, taken together, can cause significant impacts not limited to BLM lands. In addition, there is a trend toward multi-resource, multi-agency approaches to planning and environmental analysis. Planning for the eight million-acre West Mojave region of California and the 500,000-acre Applegate River Valley in Oregon are but two examples.

From an "impacted resource" standpoint, the picture is equally complex. The affected environment for each of the resource values being impacted by federal, state and private actions varies greatly, for example, from global climate change to specific archaeological sites.

Impacts occur and accumulate because of these variables, often in ways that are bewildering and hard to assess. It seems advantageous to examine concepts associated with cumulative impacts that might be caused by these complex proposed actions, in order to better understand how cumulative impacts occur and how knowledge of these impacts might be used to help managers make more informed decisions.

B. ACTION/DEMAND DRIVEN ANALYSIS vs. ENVIRONMENTAL IMPACT DRIVEN ANALYSIS

Decision makers tend to approach problem solving in one of two ways. It is helpful to understand these different approaches in order to assure that cumulative impacts are adequately addressed somewhere in the process. These approaches are based on either:

- the desire/need to take an action or to satisfy public demand for goods and services or,

- the desire/need to resolve an already known or suspected environmental or other problem.

1. Action/Demand Driven Analysis. With the Action/Demand driven approach, the desire for management to take action is triggered by internal political or agency demands or by external public demands for goods and services. Analysis starts with a proposed action or group of proposed actions. BLM tends to start the analysis with the identification of a proposed action such as an RMP, activity plan, range improvement, trail construction or a proposal from an outside proponent. Before undertaking or approving the action, potential impacts that might be caused by the proposal are analyzed.

With this way of thinking, the driving force (public/political needs and wants) may not initially give much consideration to the environment. NEPA requires alternatives to be identified and analyzed; it also mandates that environmental impacts, including cumulative impacts, must be assessed. However, the driving force is the desire to provide goods and services thereby creating a situation where the pressure is on the manager to find ways of "working with" the environment so that public/political desires are accommodated. In this process, cumulative impacts are analyzed, but the "need" to provide adequate levels of production may dominate to adversely affect environmental values.

2. Environmental Impact Driven Analysis. With this approach, environmental degradation, rather that the demand for goods and services, may be the driving force that creates the need for remedial action. A problem (or potential problem) is identified and an action is proposed to solve it. Again, NEPA requires the identification of alternative solutions/actions, all of which must be analyzed for environmental impacts, including cumulative impacts. The driving force is solving an environmental problem which creates a situation where the environment is given very high priority in the initial decision making process.[1] Of course, the best approach is to plan ahead by building environmental considerations into early planning efforts so that problems are resolved before they become critical.

Importantly, both approaches require compliance with NEPA,

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[1]Some agencies, such as the Environmental Protection Agency (EPA) or the Fish and Wildlife Service (F&WS), tend to start with a known impacted resource as described above. The need to determine what is or could be harming that particular resource is the catalyst for impact analysis.

including alternative identification and impact analysis. They are both discussed in this guide with the hope that it will help the reader understand that the potential for bias is ever present and must be guarded against by a thorough analysis of impacts, irrespective of the driving forces involved--be they demand for goods and services or the need to solve environmental problems.

The pacific fisheries restoration project (PACFISH) in the Northwest illustrates some of the concepts involved here. A problem is known to exist - a sharp decline in various anadromous fish populations. In order to resolve the problem, various agencies analyzed what was causing the decline and found that habitat degradation, excessive ocean harvests, hatchery induced disease or genetics, and hydro-electric development/operation all contributed heavily to the problem. By working together, the entities involved are starting to plan for and to take actions necessary to solve the problem. This is a classic environmental impact driven approach.

Illustration A, a hypothetical example of a fisheries in peril (Grimy Creek), further explains this concept. Potentially impacted resources that could be impacted by various actions are shown in double-lined boxes. Various actions that could cause impact are in single-lined boxes.

At the top of the illustration, the resource FISH IN GRIMY CREEK, are potentially being impacted by a variety of actions (Over grazing, logging, etc.). Concerned individuals are first aware of a problem and then seek ways of finding a solution. In the analysis, many actions by various entities (not just BLM) are found to cause cumulative impacts contributing to the demise of that highly valued resource, the fish population of Grimy Creek. As in the real life PACFISH example, a problem is known and a "bottom-up" approach is followed to find out what is contributing to the problem. Once the causes are determined, actions can then be proposed to reduce or eliminate the problem.

The bottom of Illustration A indicates a way of thinking very common in the Bureau. First we consider an action, usually being undertaken to meet public demand for products and services and, then look at the impacts as a secondary feature. In this illustration, demise of the Grimy Creek fish population is just one of several resource values potentially impacted by the proposed action of logging. Under the Environmental Impact Driven approach, logging is but one of many possible potential caused for demise of the Grimy Creek Fish population. Under the Proposed Action approach, logging **is the driving** force.

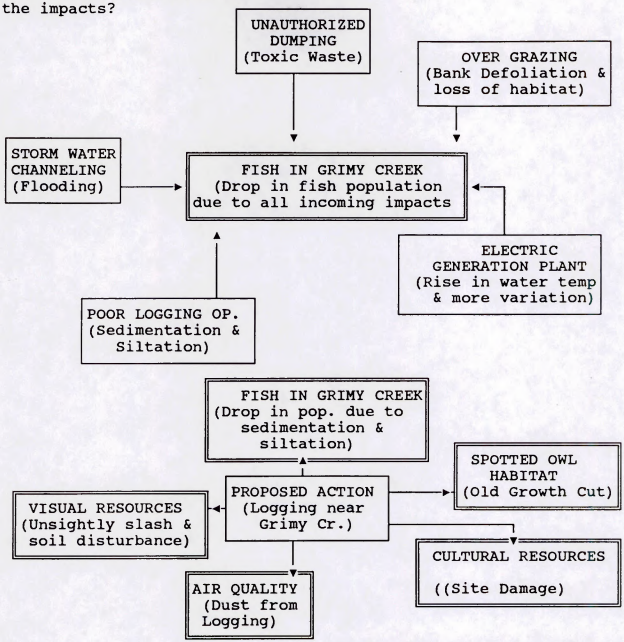
It is helpful to know that these two approaches or ways of thinking exist because they influence how we go about analyzing effects, including cumulative impacts. Either way, early in the process, knowledge of the individual resources or ecosystems

potentially impacted must be known before an accurate and complete analysis of cumulative impacts on these impacted resources from all actions can be considered.

Illustration A

IMPACT DRIVEN ANALYSIS vs.
ACTION/DEMAND DRIVEN ANALYSIS

IMPACT DRIVEN ANALYSIS
Start with potential impact.
Ask: What is the cause of
the impacts?



ACTION/DEMAND DRIVEN ANALYSIS
Start with proposed action. Ask:
What are the impacts of the
proposed action?

C. Additive vs. Interactive Cumulative Impacts

Cumulative Impacts may result from the accumulation of repeated actions or from the synergistic interaction of multiple actions.

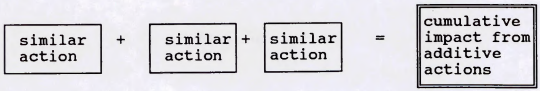
Cumulative impacts may result from the accumulation of repeated actions or from the synergistic interaction of multiple actions. Actions taken may cause impacts to build up through simple addition (more and more of the same type of action) or impacts may occur as a result of the synergistic interaction of multiple actions (various actions interact with each other or accumulate pray cause a new kind of impact).

1. Additive - Single Source. **Additive impacts** may be defined as effects caused by the accumulation of repeated actions from a **single** source or from **multiple** sources that accrue or amass impacts on a given resource (Illustration B).

Impacts under this characterization are those that accumulate in the same way as "straw on a camel's back" (straws keep adding weight until, finally, the camel's back is broken). One impact-causing occurrence, such as a single gas well, may be of little significance. A hundred wells in the same area, however, may profoundly impact a given resource. Additive impacts must consider the "straws being added" by other BLM jurisdictions, and other land managing entities, insofar as they relate to the given resource being addressed. Each resource or ecosystem being impacted in an important way should be addressed separately from other resources to the extent that it has its own affected environment. Additionally, additive impacts will vary not only between agencies but within agencies as well. Degree or intensity of impacts also must be considered in the analysis.

Illustration B

ADDITIVE IMPACTS - SINGLE SOURCE

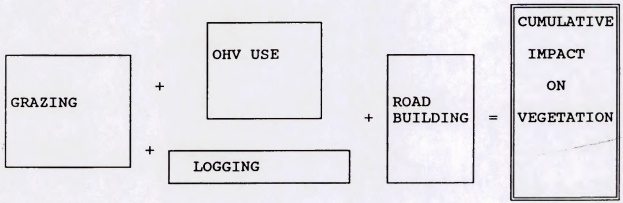


2. Additive - Multiple Sources. Impacts may amass as a result of more than one action causing an accumulation of impacts to the resource in question. Individually, these actions may be minor, but through accumulation, they may cause far more significant impacts.

Vegetation as an important impacted resource is an example. Vegetation quality, diversity, density and general health could be affected by several actions, all of which cause vegetation disturbance in one way or another. Unmitigated overgrazing by wildlife/wild horses/burros/cattle, plus motorcycle/off-highway vehicle use, logging, road construction, etc. all add up to the same thing--more and more soil disturbance and impact on vegetation (Illustration C). This soil disturbance can deplete the resource's potential to carry the valued use, causing a downward spiral of land utility.

Illustration C

ADDITIVE IMPACTS - MULTIPLE SOURCES



3. Interactive or Synergistic. **Interactive impacts** may be defined as a repeated single action or as a group of actions that cause a compounding of impacts brought on by a synergistic interaction, creating a new set of effects that would not have occurred had the actions not interacted among themselves and with the impacted resource. Actions are interactive when they synergistically influence each other to the point where the resulting impacts are greater, and often different, than the impacts of the sum of the individual actions.

Bioaccumulation or biological magnification is an example of how this process works. For instance, two pesticides used separately might cause two predictable sets of impacts. However, if they are used at the same time and in the same place, the cumulative impact might be entirely different and far more devastating. For

instance, the toxic chemical DDT, now banned in the USA, accumulated in the food chain of birds of prey, causing the secondary effect of fatally weakening egg shells. The result was a disastrous drop in the populations of bald eagles and other birds of prey.

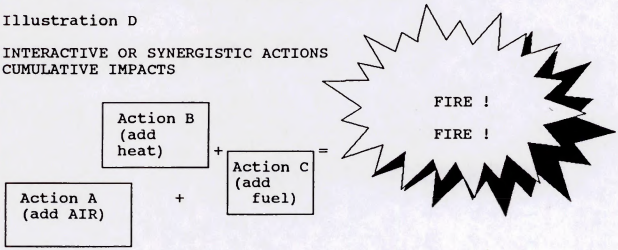
In another example, air, fuel and heat are useful and easy to manage when kept separate. However, when they are combined, fire may result as a result of this synergistic interrelationship. The Yellowstone fire illustrates how seemingly innocent independent actions can interact to cause cumulative impacts. Exceptionally dry conditions coupled with decisions to allow fuels to build up, not do artificial controlled burns, exercise a let-burn policy for lighting fires and placing limits on mechanical use and road construction during fire fighting--all combined cumulatively to create explosive fire spreading conditions (Illustration D).

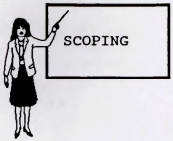
Most proposed actions may have either additive or interactive impacts and/or a combination of both. It is not important to remember these names or even precisely how they are defined or relate. The important point that should be remembered is that effects can accumulate in many different ways and that any analysis of cumulative impacts must consider the interactions, synergistic relationships and multiple effects of impacts "targeting" a specific resource. It is easy to miss the most significant cumulative impacts if this is not done.

In analyzing impacts, there is a tendency to simply look at a given proposed action and not adequately consider what impacts occur on BLM lands and on lands managed by other entities. Therefore, it is necessary to look at additive and interactive impacts when analyzing cumulative impacts.

Illustration D

INTERACTIVE OR SYNERGISTIC ACTIONS
CUMULATIVE IMPACTS





D. The Value of Scoping in Cumulative Impact Analysis

Scoping should be undertaken early in the process of preparing any NEPA document to determine the magnitude of the analysis and to identify the specific impact topics to be addressed. Scoping can help identify specific resource values that may be most severely affected by the proposed action and thereby enable the reader to address the conflict or controversy involved. It can also help avoid unnecessary data collection and analysis, and can significantly reduce preparation time and costs.

1. Using Existing Analysis. Existing environmental analytical data should always be used to the extent possible in analyzing impacts. It is advisable to build on work that has already been done in order to avoid redundancy and to help ensure that all cumulative impacts are covered. Existing analysis can include RMPs, activity plans, programmatic EAs and EISs, or EAs for similar or related actions.

These techniques are described in the BLM's NEPA Handbook, H-1790-1, Chapter III. Managers, program leaders and resource specialists should refer to the guidelines contained in the Handbook to ensure that the appropriate procedures are used.

2. Proposed Action and Objectives. The proposed action must be clearly defined, including what will happen over time (e.g., in the "out" years). Many proposed actions are highly complex or multi-staged actions. The analysis of impacts must cover the entire proposal, no matter how complicated or how many separate phases are involved.

For example, the action of oil/gas leasing authorizes a potential chain of actions that may extend for decades, including exploration, field development, production and rehabilitation. A timber sale may involve sale preparation, access development (roads, bridges), timber harvest and removal, rehabilitation of the site, etc. The road may be "put to bed" or may remain in

service[1]. This multitude of actions impacts the environment in a cumulative way and must be addressed.

Some multi-stages or complex actions are more easily handled through tiering. At each subsequent stage, a NEPA document is prepared to address impacts unique for that stage or degree of site specificity. Cumulative impacts should be looked at for each level of tiering since they may be unique for that level or may interact differently at the various levels.

For example, an Off Highway Vehicle (OHV) race may be proposed within an area already designated as open to OHV use. An EA might be prepared to cover the site specific aspects of a proposed race, tiered to the initial EIS (See HB-1790-1, page III-3). There may be cumulative impacts, such as erosion or impact on plants, that are pertinent to the area of the race, but not strongly associated with the entire OHV open area.

3. Public Involvement. Frequently there are interest groups or individuals who are very familiar with local resources. These individuals or groups should be relied upon to a great extent to help identify potentially impacted resources of interest to the community since much information and support can be gained by working with these people. This is especially true when assessing values that are difficult to quantify such as visual, recreational or cultural values. The complexity, sensitivity of the resource values involved, and public controversy of projects vary widely. Understanding this public concern, interest and sensitivity early can greatly improve the ability to later assess all impacts thoroughly, including cumulative impacts. The public can be very helpful in identifying resources that are likely to be impacted and in identifying why or how these impacts are occurring.

The public should be brought into the analytical process early. During scoping, the specific resource values most likely to be significantly impacted can frequently be identified by the public. The amount of analysis that is necessary can be greatly reduced by limiting cumulative analysis only to those issues and

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[1]See Chap. III,B.2 - Proposed Action and Alternatives Chapter. Also consult H-1790-1 for more guidance.

resource values identified by management, the public and others during scoping that are of major importance.

4. Specific Resource Values. Specific major issues and resource values (environmental components) should be identified early in the analytical process. The specific resource values most likely to be significantly impacted can frequently be identified during scoping. Those specific resource values that are at highest risk should especially be analyzed for cumulative impacts. For example, a gold placer Plan of Operation may have the potential of significantly impacting a major fishery in a river and valuable wildlife habitat along the river banks. Even though BLM employees may believe that this risk can be mitigated by adequate dike construction and other safeguards, a high degree of public controversy may justify in-depth analysis of cumulative impacts on fisheries and various wildlife species[1].

Cumulative impacts may be small and only incrementally damaging. These impacts may need to be considered, along with impacts from many other actions, to see if they are accumulating into a significant impact (see Sierra Club v. Penfold in Appendix C).

5. Resource Capability and Potential. Using available data, the capability or potential of the resources is analyzed as necessary to identify the likelihood and extent of development or use and, consequently, the nature and extent of environmental impacts resulting from resource development, use or extraction. In order to accurately determine what actions will be taken relative to a given resource, the expected general location of the resource, what quality and quantity is likely to be mined or harvested, and how easy it is to recover or harvest the resource needs to be known. This information needs to be based on logical assumptions, expertise and the best available data. This helps to set limits on the proposal and consequently of its cumulative impacts.

The public might also be able to help identify what development is likely to take place in the area, both on and off public lands, as well as permitted or anticipated future use authorizations. Future population trends and related development, infra-structure conditions and changes in urban and rural structures could all affect the ability of Federal lands to efficiently support a particular program or activity.

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[1]For more information on Scoping see 40 CFR 1501.7, Scoping Guidance published by CEQ 4/30/81 and H-1790-1.

E. Past and Present Management Practices

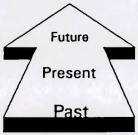
Existing and past management practices and activities within the affected geographical boundaries must be clearly described by affected resource values to form a baseline from which impacts can be assessed. The description should reflect decisions made in existing RMPs (and MFPs not yet replaced by RMPs) and their associated NEPA documents.

1. Specific program planning requirements, such as permitting requirements for various programs, should not be overlooked. Program-specific requirements identified in the Supplemental Program Guidance for Resource Management Planning must also be considered in describing management practices (BLM Manual 1620).

2. The description of past and present management practices should cover as large an area as necessary to include activities and practices that logically relate. The description should also include adjacent areas that have common resources or shared values, regardless of land ownership, including federal, state, private and tribal lands. Here, boundaries are not the focus, but rather the past and future actions that, when connected to the proposed plan, may create cumulative impacts. Frequently this present description will represent the No Action alternative (also see Chap.III.B.2).

3. The mitigation measures based on existing management practices, such as stipulations, that would be employed to avoid or reduce adverse impacts must be considered.

4. It is advisable to also look at past trends and changes since this will affect the formulation of alternatives in planning and NEPA documents. The accumulation of impacts over the years can greatly influence the present situation and what can be expected in terms of future impacts. In addition, present and past management practices should provide clues as to how they will be done in the future. For example, over the years it may have been observed that a certain number of cattle can be sustained on a grazing allotment without a decline in ecological condition if competitive wildlife grazing, rainfall and other variables remain relatively constant.



F. Reasonably Foreseeable Future Actions (RFFA) Scenarios.

RFFA scenarios are projections developed for the purpose of estimating long-term cumulative impacts[1]. Impacts on the environment resulting from an action cannot be assessed unless it is clearly understood what activities or developments will be an integral part of implementation of the proposal. Therefore, it is helpful to project development and other actions which are likely to occur over the entire life of the project when the action is authorized.

For example, an RMP decision to lease lands for possible oil/gas exploratory drilling in and of itself causes no impacts. At the time the lease is issued, it is only a paper exercise that causes no land surface disturbance. However, this authorization action opens the door for possible exploratory drilling sometime in the future. When and if this drilling takes place, there is the added possibility that a discovery will be made and the oil or gas field will be fully developed[2]. The leasing action starts a possible chain of reasonably foreseeable future actions (field development and production) that could lead to surface and subsurface disturbance. Since the resource is committed at the time of leasing, potential significant impacts must be addressed at that time. These impacts have to be based on RFFA projections and assumptions using best available information.

For mining, a common mistake in the past has been to identify a specific speculative site in an RFFA. Unless a specific site has been formally proposed, it is better to treat the proposal generically. A minerals specialist's best professional projection should not include a specific location, unless it is a formal permit proposal or approved site.

The reasonably foreseeable action is not a worst-case scenario[3] but a rational projection that combines known action and

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[1]For mining, a common mistake in the past has been to identify a specific speculative site in a RFFA. Unless a specific site has been formally proposed, it is much better practice to generalize the geologic/mining scenario to an area. A minerals specialist's best professional estimate/projection should not include a specific location, unless it is a formal permit proposal or approved site.

[2]Exploratory drilling takes place on approximately 10% of leases issued. Only about 10% of these exploratory wells lead to the discovery of a marketable oil/gas resource and field development.

[3]See 40 CFR 1502.22 for an explanation of worst case documentation requirements as revised on July 1, 1986

reasoned, defendable assumptions about future events and developments. It is not necessary (or desirable) to project reasonably foreseeable future actions on maximum development; rather, they should be based on what is reasonable, using available and anticipated future technology and defensible economic projections.

Following are some important factors to keep in mind when projecting Reasonably Foreseeable Future Actions:

1. Need for RFFA Scenarios. Not all proposed actions need RFFA scenarios in order to adequately describe the proposed action, and to identify the cumulative and other impacts associated with the entire life of the proposed project. Appendix B is a description of representative actions and recommendations concerning the need for RFFA. Generally speaking, minor proposals that would have a short life span and no long-term significant cumulative impacts do not require RFFAs. This is especially true if the proposed action is tiered to a more comprehensive analysis that does not have a reasonably foreseeable future action scenario and already addresses cumulative impacts.

For example, a small, short-term project, such as a single range improvement, would not need an RFFA in order to adequately analyze impacts, even though analysis of the range management program for the entire area would generally require an RFFA (See Appendix B).

2. List of Assumptions. Since the future is unknown, it is necessary to make assumptions in order to prepare scenarios. These assumptions should be clearly documented to show the reader the basis for RFFA projections.

3. Standard Operating Procedures (SOPs). Standard Operating Procedures are often listed for programs such as construction projects, oil and gas leasing and development, range improvements, etc. in order to achieve some degree of standardization and to help operators know what to expect from BLM in the way of requirements. Resource specialists should determine standard operating procedures including typical conditions, stipulations or other constraints. Many programs have well established standard operating procedures already available. Standard operating procedures are an integral part of the proposed action and contribute, along with other aspects of the proposed action, to environmental effects, including cumulative impacts, that must be analyzed.

4. Planned or Otherwise Anticipated Future Occurrences. On BLM managed lands, review existing RMPs, MFPs not yet replaced, activity plans and site plans for management

controls on future use and development. Estimates should be tied as much as possible to approved land use plans and related site-specific plans. Standard conditions and stipulations from these plans, as well as reasonable mitigation measures[1], are to be considered in preparing reasonably foreseeable action scenarios.[2]

Consider what actions are likely to occur on other lands (private, state, other federal and other BLM), that may impact the same resources as the specific BLM proposal in question. These actions often contribute to the cumulative impacts on the affected resources BLM is analyzing. This is especially important with critical elements such as T&E species.

5. Monitoring Reasonably Foreseeable Future Actions. As actions are implemented, it is important to monitor the resulting environmental changes or lack of changes. Monitoring helps gauge success or failure, analyzes adaptations to management decisions, and may reinforce future analyses. Monitoring is also a way of checking predictions against what actually happens on the ground. In this way improvements can be made in the future to ensure that goals and objectives are being met.

6. Sources of Additional Assistance. List and analyze all factors that seem to contribute to the impacts or to understanding what has caused the impacts. Examples are other projects that cause similar impacts or future projects in the area such as permitted or likely-to-be permitted projects, residential or other development in the vicinity, etc. Especially note other BLM actions or actions by other entities that may have a major environmental effect on the same resource values as the proposed action being analyzed. Much of this information can be obtained during scoping from the general public.

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[1]Often, reasonable mitigation measures can be legally imposed upon development.

[2]In some instances, the private land owner may be uncooperative, and BLM may not have the authority or leverage to obtain data. There may also be unclear distinctions between what can or cannot be mitigated on private land. In such cases, identify the lack of information as called for in 40 CFR 1502.22 and base your analysis on the best information that is available.

G. Space (Area) Considerations and Parameters

Each resource must be analyzed in terms of its own time and space parameters, not in terms of the proposed action.

Proposed actions such a construction project (road, trail, overlook, range improvement, sign), establishment of an Area of Critical Environmental Concern (ACEC), approving an oil/gas lease, or authorizing a timber sale generally have specific boundaries[1]. Once these areas are defined, impacted resources and the affected environment of each potentially impacted resource can be identified.

Physical boundaries such as watersheds and viewsheds, and biological boundaries such as elk habitat may be appropriate for setting parameters, depending on migratory range, drainage or "space" occupied by each of these affected resources or ecologically grouped resources. (see Illustration I).

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[1]Some actions are authorized for large [though well defined] areas, but the exact location of future specific surface disturbing actions are not yet known. Examples are oil/gas leasing, designation of areas open to mineral location, setting the allowable timber cut, etc. These authorization type actions generally require Reasonably Foreseeable Future Action scenarios so that impacts caused by specific future actions can be assessed.

AREAS OF IMPACT ANALYSIS - BY RESOURCE

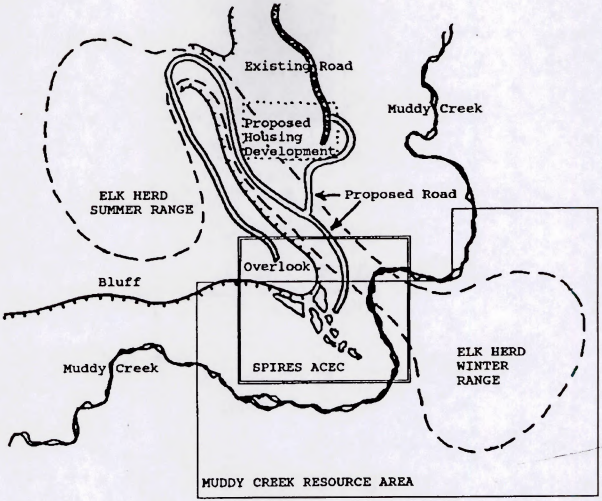

Illustration I

Each resource must be analyzed in terms of its own parameters. In the above example, a proposed road construction project would impact an elk herd, a spires scenic area with overlook and a stream. Each of these impacted resources has its own "area", none of which exactly match that of the proposed road. Also, impacts on each resource must be added to impacts caused by other actions in the area that impact the same resources. For example, neither the road nor a proposed private housing development block the elk migration route. Together, however, the elk migration route is completely shut-off. Also illustrated is an arbitrary resource area boundary to point out that political borders frequently have very little relationship to specific impacted resource areas of analysis. Arbitrary political boundaries should not be used to set bounds on impact analysis.

All impacts, including cumulative impacts, should be thought of in terms of what is being impacted. This means a specific resource or ecosystem since each bird species, each overlook, each riparian area has its own unique geographical and time parameters and characteristics. Often, these resources are grouped by ecological regions. Also keep in mind that many of these factors are dynamic in nature and may change in size and significance.

Cumulative impacts need to be analyzed in terms of the specific resource or ecosystem being impacted.

The affected environment for each of the resources likely to be impacted by the proposed action may vary considerably from one resource or one ecosystem to the next and, importantly, are not likely to conform exactly to the "boundary" of the proposed action.

When setting geographical parameters, it is important to know whether effects of the proposed action(s) overlap areas significant to resource values identified as being important. This could be water quality, a viewshed or a specific ecosystem, depending on what has been identified as being important during scoping.

Avoid setting parameters that include so much territory that analysis becomes speculative and unwieldy. For example, it might be tempting to analyze air quality or global warming from a national or even global perspective. However, the current modeling technology, as would be applied to small point sources that BLM frequently encounters, would generally be highly unreliable [1].

For each specific resource or ecosystem being impacted by an action, there is a point reached where the apparent effect is not significant or of major concern at that time. Expand the area of analysis or parameter for that resource until a trend is established that shows a stable or decrease in impact on the subject resource. For some resources, this boundary is soft and illusive. (Air quality varies by atmospheric conditions,

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[1]Air quality impacts from fossil fuel burning may be seen by some as being global in nature. We should avoid being drawn into impact analysis of this type which are likely to be very speculative, given the current state of global modeling technology as would be applied to relatively small point sources such as BLM would deal with on an RMP/EIS or more project specific EIS.

constantly changing from one day to the next. Migratory animals and birds do not always follow predicted patterns, etc.).

A rule of thumb is to consider effects as far away as necessary to include scientifically defensible significant effects (measured by parts per million of particulate matter, views that can be seen by the naked eye, etc.)[1]. As the outer bounds of consideration for some resources are reached, effects may become so subjective that it is pointless to "extend the line" any further out. Usually a defined area of analysis will be reached where a trend is established showing a stable or decreasing influence from the project; it should be possible to demonstrate that the impacts are clearly not significant beyond this point (Illustration E). For example, scientific data may indicate that water quality will deteriorate 20 miles downstream from the watershed where the proposed action is to take place. Include an analysis of water quality downstream until "significance" of the impurities in the water is no longer a major concern.

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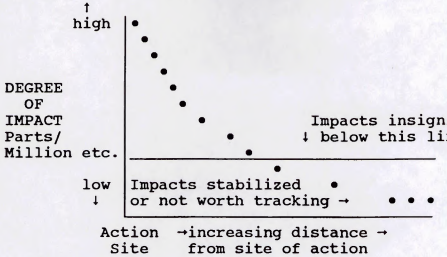
[1]Several air quality regulations include "significance determinations" and pollution levels which are used in conjunction with air quality modeling to determine the area (range) influenced by the source being considered. For example, for visibility impacts the significance level is 1 mg/m^3 for particulates (PM-10).

Illustration E

DETERMINING BOUNDARY OF IMPACT CONSIDERATION



Cumulative impacts are interdisciplinary, multi-jurisdictional and usually do not conform to political boundaries[1]. Consequently, the analysis should not be constrained by political or other arbitrary borders. In order to accurately analyze how a resource is being impacted, everything affecting the well-being of that resource must be considered in the analysis; not just those impacts caused by the particular proposed action being considered. As an example, a given set of actions could be closely packed into a geographical area the size of a football field or could be spread over an entire region, depending on the resource being impacted, recovery rates and other factors. Either way, the actions could cause significant impacts.

An example of space/time interrelationships is the fragmentation of Spotted Owl habitat caused, to a degree, by old growth cutting (by several entities in several locations), road construction, fires and urbanization. Individually these actions may not harm the Spotted Owl, but as a whole, over an extended period of time (past, present and future), large blocks of forest are broken into smaller segments, making it much more difficult for mating to occur, food to be located and suitable nesting habitat to be found, thereby negatively impacting this species (Illustration F).

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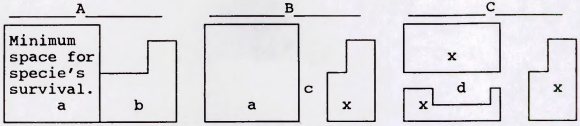
[1]Socio-economic impacts may relate closely to political boundaries.

Illustration F

CONTIGUOUS SPACE REQUIREMENTS



A: Original contiguous (a-b) forested block more than large enough for specie's survival.

B: Harvesting and land dev. (c) has split forest into two disconnected blocks (a&x). Only (a) meets minimum size needed for specie's survival.

C: Additional cutting of forest (d) has made all blocks (x) too small for specie's survival.

In many instances, it will be necessary to go beyond the immediate project site to determine impacts, especially cumulative impacts. This may involve an ecosystem type of approach, since close coordination with several management entities may be necessary in order to consider the entire range or ecosystem of the affected resources involved.

H. Time Considerations and Parameters.

In addition to identifying the geographical area of each affected resource value, the life of the project must be understood in terms of how it interacts or overlaps with the life span of each affected resource value or ecosystem.

Cumulative Impacts are caused by the aggregate of past, present and reasonably foreseeable future actions.

The past needs to be analyzed to determine how the present situation is affected by history, and to identify trends that have been established. The objective of doing this is to initiate a baseline for accurately assessing future events. The reasonable and foreseeable future of the project must be analyzed over its entire life to determine whether significant impacts will occur during the life of the project, or even beyond.

As illustration, some projects, such as fence construction, are short in actual construction time but may cause impacts (such as

limiting wildlife migration) for 20 years or more. An oil field development may commit surface resources (such as visual and vegetation) for over 50 years.

Gold mining in Colorado at the turn of the century offers an illustration of project time vs. duration of impacts. The project life of some of these mines was only 10 to 20 years. Yet, impacts from these mines are still occurring--100 years later in the form of effects on the resources of visual, soil, vegetation and water quality. Analysis of a proposal (not limited to mining) in the area of these old mines would have to consider what has gone on in the past as well as what is going on now, in order to determine what the future impacts would be.[2] Acid drainage today, as a result of past mining, added to any possible contamination from proposed actions, could greatly exacerbate the situation (reduce water quality) even though the proposed action may seem minor on its own merits[3].

Cumulative impacts can be envisioned as a two dimensional box with one dimension being time and the other space (Illustration G). The time dimension covers impacts of the past on through to reasonably foreseeable impacts resulting in the future. The space dimension can be quite small (local) or very large (global), depending on the nature of the action and ensuing impacts. Cumulative impacts comprise the total area of the box. Neither space (are the impacts local or global?) nor time (are all past, present and future impacts considered?) can be ignored.

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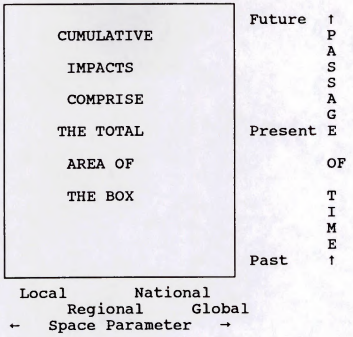
[1]It is important to point out in the analysis, for public information, that some of BLM's mitigation and management practices may be a requirement of law and related regulations.

[2]Through a Plan of Operation, environmental impacts may be mitigated, to some extent, from start-up to reclamation.

[3]Other considerations relative to setting both time frames and spacial limits may include: Legal constraints (rules, regulations,etc.); Organizational, jurisdictional restrictions (BLM, other agencies); Availability of research, resources, and technical skills to predict changes and; Types of effects.

Illustration G

SPACE AND TIME DIMENSIONS



Cumulative Impacts become the entire area of the box - past, present, and future, as far as can be reasonably foreseen. No matter where the "present" mark is, decisions of the moment must consider both dimensions.

I. Thresholds

Thresholds are the accumulation of impacts on a given resource to the point where "significance" is reached, usually requiring the preparation of an EIS. This is important in determining whether or not an EA or an EIS should be prepared. Thresholds may encompass the intensity or duration of an action or activity that is required to produce a meaningful change in an organism or an ecosystem. Complicated ecosystems may have alternative stable states that must be considered in the decision making process, therefore, requiring site-specific definitions and decisions concerning such thresholds.

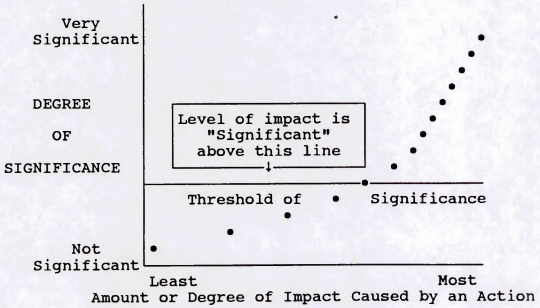
It may not be advisable to make broad generalizations of when a threshold is reached. The danger is that thresholds may not apply "across the board", especially when variables such as weather and other changing circumstances enter in. BLM's reasoned subjective judgement concerning thresholds on a site or situation specific basis is generally better than trying to establish, unbending arbitrary thresholds which can easily be

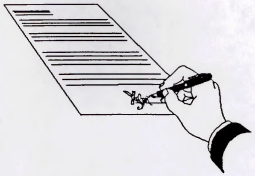
erroneous for a given particular situation.

The point of significance or threshold should be understood for the particular situation affecting every resource being impacted (Illustration H). For many resources, such as T&E species, determining thresholds can be a very technical and highly controversial process. Guidance provided by individual resource programs should be consulted for procedures required to identify thresholds and what mitigation measures are needed to keep from crossing this critical point or to move back below it, once it has been exceeded. Keep in mind that thresholds may be dynamic in nature and must be monitored to see if they are still accurate and applicable.

Illustration H

THRESHOLD OF SIGNIFICANCE





CHAPTER III - DOCUMENTING THE ANALYSIS

Guidance on how and where to present data relating to cumulative impact analysis is discussed in this chapter. Guidelines are applicable to both EAs and EISs since both documents require the analysis of direct, indirect and cumulative impacts. The BLM NEPA Handbook (H-1790-1) should be consulted for more complete procedural requirements for EAs and EISs. The following chapter is intended to supplement the handbook by helping to clarify how cumulative impact assessment fits into the documentation process.

A. Introduction Section

Identify any significant environmental issues to be addressed in detail in the document, including issues relating to cumulative impacts. Concern over possible cumulative impacts is frequently one of the critical issues mentioned by the public during scoping.

> *It is not practical to analyze the Cumulative Impacts of an action on the Universe: The list of environmental effects must be narrowed to those that are truly meaningful.*

The extent of documentation necessary is determined by the scope of action and level of controversy. Since it is impossible to cover everything in an EIS, prioritization is important to assure that significant impacts are analyzed.

If an interdisciplinary team is used in preparing the NEPA document (EIS or complex EA) analyze anticipated cumulative impacts in a "round table" fashion, being sure to involve all relevant resource disciplines. If the project is small and a fairly simple EA is to be prepared, it is still important to contact as many disciplines as necessary to assure that all

appropriate resource values and conflicts are considered. This should be done early to ensure that all factors influencing or creating these impacts are appropriately considered.

B. Proposed Action and Alternatives Section

1. The proposed action and each alternative should be identified separately. Include all main, connected and related actions, and describe all phases of the proposal including stipulations designed to reduce direct, indirect and cumulative effects below the level of significance. NEPA and the CEQ 1500 regulations require that significant impacts be covered in an EIS. Keeping impacts below the level of significance means that an EIS might not be necessary and that an EA would suffice.

Pertinent aspects of BLM existing management, if any, and related constraints should be summarized and presented in the "no action" alternative. This alternative serves as the baseline or starting point for discussing the other alternatives and for comparing the effects of choosing one alternative over another. Consequently, the baseline or no action alternative must be agreed upon prior to the formation of any of the other alternatives.

Cumulative Impacts cannot be analyzed unless the proposed action and alternatives are clearly stated and understood.

2. Reasonably foreseeable future actions that have been created as a scenario, or as examples for the purpose of estimating cumulative effects, should not be included as part of the proposed action. If made a part of the Proposed Action and Alternatives section, there may be an implied commitment to implement these RFFAs even though they are only theoretical projections based on the best available information (also see Chap. II.G).

3. A matrix or table summarizing the alternatives and the impacts of alternatives analyzed should be shown in this section of an EIS. It is not required to "flag" which impacts are cumulative impacts, though this may be helpful to the reader.

The development of the alternatives for NEPA and planning documents, including the preferred action, is at the very heart of the NEPA process and justifies considerable thought. Without these alternatives there obviously can be no comparative analysis of environmental effects.

C. Affected Environment Section

The affected environment should adequately describe what specific resource values are likely to be significantly impacted under various alternatives. It may be necessary to describe the affected environment, specific to those resources, well beyond the boundaries of the subject proposal or project.

Cumulative Impacts on a given resource or ecosystem are rarely aligned with political or administrative boundaries.

However, it is necessary only to describe those aspects of the environment that the analysis shows may be potentially impacted in an important way. This is especially true with air, water and migratory wildlife which might be affected many miles from the project site (also see Chap.II.G&H). Only certain resource values are affected by cumulative impacts. These should be identified in scoping and covered in more depth in the Affected Environment section. Also, the narrative should be no longer than what is necessary to understand the effects of the alternatives.

D. Environmental Consequences Section

The impacts of each alternative, including the no action alternative, as well as the basis for these projected impacts, are presented here.

1. The assumptions made as part of the impact analysis should be summarized at the front of this chapter as a reminder to the reader.

2. Incomplete or unavailable data should be identified early in the chapter in association with the discussion of assumptions. Program-specific documentation requirements associated with incomplete information should be presented at the same time (40 CFR 1502.22).

3. If reasonably foreseeable future action scenarios are used, the narration should be placed in the Environmental Consequences section following the assumptions. This arrangement should help the reader see how RFFA scenarios relate to the basic assumptions.

Projections of possible future actions that are projections only (not actual planning decisions) should be considered as part of the RFFA discussion and not part of the proposed action. These projections are RFFA scenarios that help to assess impacts of a proposal throughout its life but are not intended to be resource commitments.

RFFA scenarios are projections made only for the prediction of future impacts. They are not actual planning decisions or resource commitments.

Future actions that are being committed to as an integral part of the proposed action are not RFFA scenarios as used in this guidance document. The entire proposed action, including commitments that carry into the out years, should be presented in the Proposed Action section of the NEPA document. RFFAs should be described and discussed in the Environmental Impacts section or in the appendix.

The RFFAs are in contrast to items in a well-developed proposed action where commitments are being made over a span of several months or even years. If a proposal, such as a timber sale, is known to include a series of future related actions (road construction, cutting, ground preparation, reseeding, burning, rehabilitation of roads, etc), these future actions should be considered and described as part of the proposed action rather than as part of the RFFA. If the related actions are an integral part of the proposed action and BLM is committing to them, treat them as part of the proposed action in the analysis (also see BLM NEPA Handbook, Chap. III.

It should not be necessary to complete a new cumulative impact analysis for every permit, lease or approval issued by the BLM. Therefore, consider using Reasonably Foreseeable Future Actions developed in the RMPs as much as possible and update these when necessary to keep them current. This analysis should consider actions on lands managed by other entities. If the cumulative impact analysis for the RMP is current, it can later be referenced for individual actions.

Descriptions of reasonably foreseeable actions should be detailed enough to explain the basis for estimates and projections being made. Consult specific program guidance or contact District or State Office Program leaders for assistance concerning additional documentation requirements for specific programs.

4. In order to assess cumulative impacts on a given resource, it may also be necessary to describe what actions are likely to take place on nearby non-BLM lands that might also impact the specific resource or ecosystem in question. Even though BLM's plans and associated EISs do not make decisions on how these other lands are to be managed, these lands and their uses should still be considered when evaluating cumulative impacts in BLM's environmental documents. This analysis may be treated as a single narrative by impacted resource. As an alternative approach, RFFAs associated with other agencies or adjacent landowners may be discussed in the appendix to give a

clear break between BLM's proposals or projections and those of other entities. Conclusions would be brought into the text for the cumulative impacts discussion as appropriate.

The following disclaimer for RFFA scenario sections is suggested:

> **This section analyzes resource management and development actions planned or projected to occur under each alternative. Projections, which have been developed for analytical purposes only, are based on current conditions and trends and represent a best professional estimate of reasonably foreseeable future actions. Unforeseen changes in such factors as economics, demand, and Federal, State and local laws and policies could result in different outcomes than those projected for this analysis.**

5. The direct, indirect and cumulative impacts discussion may be presented by resource or by alternative (via Matrix, Table, etc.). Impacts which are common to all alternatives, e.g., impacts related to a typical operation, only need to be summarized once, then cross referenced.

6. A separate Cumulative Impact section or sections may be appropriate when necessary to ensure that cumulative impacts are addressed. Though not required, the public and other reviewers are starting to look for a separate cumulative impact section.

If a separate cumulative section or summary is used, it should include all cumulative impact issues brought up during scoping. Among other problems, separate headings (such as a Cumulative Impact section) tend to force writers into making arbitrary decisions as to which impacts are direct, which are indirect and which are cumulative. The regulations require agencies to describe and analyze the impacts but not to labor over which category to place them under! Both direct and indirect impacts accrue and interact to cause cumulative impacts. All impacts mentioned during scoping should be addressed.

7. Clearly identify the mitigation measures used to reduce the undesired environmental effects of impacts. Also follow through with well planned minitoring to ensure that promised mitigating measures were effective in achieving thedesired results.

8. Describe any residual impacts. Frequently it is not possible to mitigate all impacts. Describe which impacts identified in scoping, and throughout the documents, will remain after the project is completed and all mitigation measures have been implemented. Cumulative impacts may last for many years beyond the life of the action that caused the impacts (mine drainage, extinction, radioactive waste, etc.).

Cumulative Impacts may last for many years beyond the life of the action that caused the impacts.

9. One of the pitfalls of cumulative impact assessment is trying to cover too much. By following all conceivable environmental interactions, the well-being of the entire universe could be dragged into any given EIS. Obviously, boundaries have to be set. In 1986, CEQ revised their regulations at 40 CFR Part 1502.22 partially to address this problem. The revised regulations stated that impacts with a low probability of occurrence, but with catastrophic consequences if they do occur, should be evaluated if the analysis is supported by credible scientific evidence and is not based on pure conjecture, and is within the rule of reason.

The requirement to do a worst case analysis was replaced when CEQ revised 40 CFR Sec. 1502.22. The reasoning for this new ruling was that "far-fetched" and poorly documented extreme impacts were being narrated with little tie with reality. The result was a waste of time and effort and a highly misleading assessment of the true environmental consequences of a project. However, the regulations point out that worst-case impacts that can be realistically described and assessed, may still be appropriate. Section 1502.22 provides instruction on how to deal with incomplete and unavailable information of this nature. As provided for in the regulations, there may be situations where the worst possible, yet realistic, impact needs to be known. An example is the impact of a 100-year flood.

E. List of Individuals and Organizations Consulted

This list helps verify that all adjacent landowners and other parties potentially contributing to or being affected by potential significant impacts are contacted. The public is taking an ever increasing interest in the long-term effects of proposed actions involving the public lands. Utilize the public as a forum to investigate potential cumulative impacts to make sure that the significant issues are not missed.

Summaries of scoping may be placed in this section. This would help show the public the initial effort made by BLM to identify cumulative impacts.

F. Appendices

Detailed and or lengthy material of a technical or supportive nature, or material that is program specific should be placed in an appendix to preserve readability of the main document. Following are examples of the type of cumulative impact related information most appropriately placed in the appendix:

1. Resource information that supports the projection of reasonably foreseeable future actions and is considered important for handy reference.

2. Useful details on specific Federal, State or local permitting requirements commonly in use. Much of this material may already have been standardized and available as reference material. Do not overlook the option of incorporating such material by reference, especially if it is readily available to the public.

3. Lengthy discussions of affected resources outside the boundaries of the proposal, but still significant to the assessment of the proposed action. The analysis is often dictated by resource value and interests and is not limited to project sites.

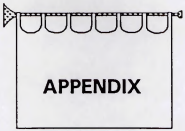
4. Estimates of resource capability or potential.

5. Standard Operating Procedures related to the proposed action or the alternatives.

6. Reasonably foreseeable actions relating to other agencies or other lands outside the immediate boundary of the proposed action.

7. Use the Appendix to show the rationale for figures and calculations used. Stark figures are not very believable if there is no explanation of where the figures came from or how they were derived.

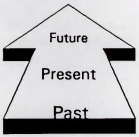
8. RFFAs associated with adjacent landowners generally should be discussed in an appendix to avoid confusion. Conclusions should be brought into the text for the cumulative impact discussion as appropriate.



APPENDIX A

LIST OF ACRONYMS USED IN THIS DOCUMENT

BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CIA	Cumulative Impact Assessment
CFR	Code of Federal Regulations
DC	District of Columbia
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
IBLA	Interior Board of Land Appeals
NEPA	National Environmental Policy Act
NRDC	Natural Resources Defense Council
NSO	No Surface Occupancy
OHV	Off Highway Vehicle
RFD	Reasonably Foreseeable Development
RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan



APPENDIX B

EXAMPLES OF REASONABLY FORESEEABLE FUTURE ACTIONS SCENARIOS (RFFAs)

Comprehensive Land Use Planning

RFFAs are most commonly associated with comprehensive land use plans where resource commitments are made on a large scale but without great details or specific implementation measures or time frames of action. In such situations, it becomes necessary to project or estimate expected future actions that are likely to result from management decision so that environmental impacts can be identified and assessed. These projections or estimates are generally based on experience obtained from similar projects located elsewhere in the region. For many programs, future actions resulting from present decisions are very routine and can be fairly accurately described and predicted.

In other cases, such as mining and fluid mineral leasing, it is much more difficult to predict extent of discovery, extraction methods and practices that will be employed in the future as a result of decisions made today. Nevertheless, NEPA requires us to analyze impacts resulting from these actions as accurately as possible. Using best available information, scenarios are created to predict what future actions might reasonably be expected as a result of decisions made today. From these scenarios, environmental effects can be anticipated and analyzed.

Coal Leasing

The location of the coal resource is generally known and the available volume can be fairly accurately approximated. Not known is the order and rate of extraction, or even if extraction will take place at all. These decisions are usually set by economic and other considerations after the lease is let. An RFFA, therefore, sets up a typical - reasonably foreseeable scenario of what development might be expected.

Forestry

If the plan is intended to only commit the manager to an allowable cut, with the exact sale location not being identified, an RFFA scenario helps describe how this might play out.

RFFA scenarios are generally not needed for specific timber sale plans. Most actions associated with a timber sale are predictable and can be built into the proposed action (harvest and rehabilitation procedures are generally standard). The plan can specifically identify where the cuts will take place and the dates of the sales. To the extent these are known, they should be made a part of the proposed action.

Solid Minerals

Use of RFFA is of the utmost importance in completing necessary planning and NEPA work associated with proposals made under the 1872 Mining Law. When a mining proposal is received, BLM may not know exactly where within the claim the action will take place, the exact size of the action or even the method that will be used in extracting the minerals. The RFFA scenario helps clarify what actions will ultimately result from the proposal and what mitigating measures can be taken to reduce the impacts following approval of the plan of operation[1].

Oil and Gas Leasing

A classic RFFA (or RFD) is a scenario where the proposed action is leasing. Leasing potentially commits land resources to the impacts of exploration and development. At the leasing stage it is not precisely known whether or not development will take place and if so, when and to what extent. Yet, land

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[1]It can also be argued that early exploration plans of operation need not be analyzed in terms of scenarios of future development, since such development may not yet be likely. Unlike fluid mineral leasing, approval of an exploration plan of operation is not the point of irreversible commitment of the resource. It has been argued that commitment of the resource occurred when the 1872 Mining Law was enacted. Following this line of reasoning, unlike leasing, lands are open to mineral location unless withdrawn, in which case the withdrawal action warrants analysis of impacts and RFFAs. When a hard rock mining applicant reaches the development stage, the plan of operation must be very specific for adequate NEPA analysis to occur. There is some point between early exploration and full development where a determination needs to be made about whether development is reasonably foreseeable and a scenario is necessary for analysis purposes.

use commitments have been made at the leasing stage.

The RFFA scenario may portray the development of a fairly large oil field or, conversely, no discovery at all (on the majority of leases, explorative drilling does not take place or leads to a dry hole).!

Regardless, these potential future actions will need to be predicted so that the environmental effects can be anticipated and analyzed, as accurately as possible, based on best available information, plus information that can reasonably be acquired.

Range Use Allocations and Improvements

Generally, grazing allocations are made by specific areas so that an RFFA scenario would not be necessary. However, an RFFA scenario would be required for any decisions made during comprehensive land use planning that allocate resources for an entire planning unit but do not identify specifically where these allocations would take place.

If a plan calls for a certain number of range improvements or a certain standard (spacing, no water further than X yards, etc), but does not identify specific location, an RFFA scenario would be needed to indicate typically what would happen if the goals or targets of the plan were translated into actual on-the-ground installations.

Recreation

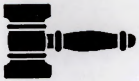
Most approved recreation actions are sufficiently site specific or the likely impacts are sufficiently predictable that RFFA scenarios would not be necessary. An exception might be the designation of a large area as open to OHV use. The RFFA might be the projection of permitted future individual and family OHV use taking place because of the designation. In this case, an RFFA would help estimate impacts of non-event OHV use, even though the exact location, size or seasonal considerations would not be known for certain at the time of resource commitment.

Wilderness

Impacts of wilderness designation on other programs, such as mining, lend themselves well to the use of RFFA scenarios. Because of limited access and other constraints, grazing, mining and other activities would be impacted. RFFA scenarios frequently presented what would happen in the absence of wilderness designation. RFFA scenario would also help estimate what actions might ultimately have to be approved or disapproved as a result of the wilderness management decision.

Wild Horses and Burros

Wild horses may currently be at the carrying capacity of the range. The RFFA assumption may be that the annual reproductive rate is 10 percent per year. In this scenario, it is reasonably foreseeable to expect that the herd will double in size in seven years unless animals are removed or other control measures are implemented or occur naturally (starvation, disease, dehydration).



APPENDIX C

Court Cases and IBLA Decisions Relating to Cumulative Impact Assessment

National Resources Defense Council v. Callaway

(2nd Circuit Court, 9/9/1975)

Appeal on EIS is upheld

> "(A)n EIS is required to furnish only such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well-nigh impossible .... A government agency cannot be expected to wait until a perfect solution of environmental consequences of proposed action is devised before preparing and circulating an EIS. On the other hand, an agency may not go to the opposite extreme of treating a project as an isolated 'single-shot' venture in the face of persuasive evidence that it is but one of several substantially similar operations, each of which will have the same polluting effect in the same area. To ignore the prospective **cumulative harm** under such circumstances could be to risk ecological disaster."

Trout Unlimited v. Morton

509 F.2d 1276 (9th Cir. 1975)

An EIS must cover the proposed action as well as subsequent phases of development when it would be irrational, or at least unwise, to undertake first

phase if subsequent phases were not also evenually undertaken as part of the verall project.

City of New Haven v. Chandler

(DC, CT, 2/14/1978)

Denies injunction on construction project for lack of an EIS.

> "As the Second Circuit has stated, 'the responsible federal agency has a primary and non-delegable duty to make its own comprehensive and objective evaluation of the environmental impact of a project constituting a major federal action .... [T]he Second Circuit established two relevant factors that must be considered by the federal agency. First, the agency must determine 'the extent to which the action will cause adverse environmental effects in excess of those created by existing use in the area affected by it.' Second, the agency must consider 'the absolute quantitative adverse environmental effects of the action itself, including the **cumulative harm** that results from its contribution to existing adverse conditions or uses in the affected area.'
>
> "... 40 CFR 1500.6 ... states that an EIS should be compiled for every major action, the environmental impact of which is likely to be 'highly controversial.' But the term 'controversial' has been interpreted to mean a substantial dispute over the actual effect of the action rather than merely the existence of continued local opposition."

Akers v. Resor

(DC, W.TN, 1/27/1978)

Injunction on construction due to inadequate EIS.

> "The full environmental impact of a proposed federal action cannot be gauged in a vacuum. The standards of practicality and reasonableness by which the adequacy of an EIS must be measured surely dictate that the **cumulative impacts** of one project with other projects need not be set forth in the same detail as the direct impacts of the project. The same standards of practicability and reasonableness dictate that such **cumulative impacts** must not be ignored."

Westside Property Owners v. Schlesinger

(597 F.2d 1214 (9th Cir. 1979)

If there is no significant increase over on-going operations, no EIS is required. This case involved an environmental challenge to the Air Force in adding new modified F-15s to the contingent of planes at an existing air base. Environmemntalists argued that the noise impacts of these planes must be considered cumulatively with the noise level of existing aircraft.

North Slope Borough v. Andrus

(DC, 1/22/1980)

Enjoins DOI against leasing due to inadequate EIS.

"If, however, there are several projects that will have **cumulative** effects upon a region so that the environmental consequences of a particular project cannot be considered in isolation, the decision maker must be alerted to those **cumulative impacts**. The discussion of **cumulative impacts** need not be overly detailed; like other aspects of the EIS it is governed by the rule of reason. The discussion must, however, 'furnish... such information as appears to be reasonably necessary under the circumstances for evaluation of the project' (NRDC v. Callaway, 524F.2d 79,88). The **cumulative** effects of other projects that can be expected to have similar impacts must be acknowledged. '(A)n agency may not ... treat a project as an isolated 'single-shot' venture in the face of persuasive evidence that it is but one of several substantially similar operations, each of which will have the same polluting effect in the same area. To ignore the prospective **cumulative harm** under such circumstances could be to risk ecological disaster' (Ibid.).

"An acknowledgement of the existence of **cumulative** effects is not sufficient. The EIS must alert the decision maker to the nature of those **cumulative effects** for the discussion to have utility.

The agency must go beyond simply enumerating alternatives and discuss their environmental consequences. The discussion need not include every alternative device and thought conceivable by the mind of man (NRDC v.

Callaway, 524F.2d 79,88). Rather, as in other areas, the consideration of alternatives in an EIS is governed by the rule of reason. The agency itself determines what alternatives should be considered and how extensive its treatment of them should be. NEPA requires that the EIS include information sufficient to permit a reasoned choice of alternatives so far as environmental aspects are concerned. It is crucial, however, that the EIS provide the decision maker with enough information to make that reasoned choice."

Lange v. Brinegar

625 F.2d 812 (9th Cir. 1980)

The Court did not require cumulative impact analysis of the entire Interstate highway, nor indirect developmental impacts (i.e. demands on water and sewer systems from secondary business developments along freeway) which are wholly speculative.

National Wildlife Federation v. U.S. Forest Service

(DC, OR, 4/3/1984)

Timber sale enjoined pending **cumulative EIS.**

"The standard for determining whether a proposal will significantly effect the human environment is whether the plaintiff has 'alleged facts' which, if true, show the proposed project may significantly degrade some human environmental factor."

(The decision in this case was amended on August 6, 1984, but the amendment did not address this cited observation. See p. 40.)

Conner v. Burford

605 F. Supp. 107 (D. MT, 3/12/1985)

Requires EIS for oil and gas leasing.

> "To use the No Surface Occupancy (NSO) stipulation as a mechanism to avoid an EIS when issuing numerous leases on potential wilderness areas circumvents the spirit of NEPA. Subsequent site-specific analysis, prompted by a proposal from a lessee of one tract, may result in a finding of no significant environmental impact. Obviously, a comprehensive analysis of **cumulative impacts** of several oil and gas development activities must be done before any single activity can proceed. Otherwise, a piecemeal invasion of the forests would occur, followed by the realization of a significant and irreversible impact." (Note: This decision was upheld on appeal to the 9th Circuit, 1/13/1988: "In sum, the sale of a non-NSO oil or gas lease constitutes the 'point of commitment;' after the lease is sold the government no longer has the ability to prohibit potentially significant inroads on the environment. By relinquishing the 'no action' alternative without the preparation of an EIS, the government subverts NEPA's goal of insuring that federal agencies infuse in project planning a thorough consideration of environmental values." [Also, see Sierra Club v. Peterson, DC Circuit, 9/13/1983 (p. 32) reversing district court ruling that an EA/FONSI was adequate for leasing.]

Fritiofson v. Alexander

772 F.2d 1225 (5th Circuit Court, 10/7/1985)

Supports district court ruling on inadequacy of an EA.

> "In a case like this one ... where an EA constitutes the only environmental review ... the **cumulative impacts** analysis plays a [particular] role. This distinction is clearly recognized in the CEQ regulations. Sections 1508.7 and 1508.27 require an analysis ...[of] whether it is 'reasonable to anticipate **cumulatively significant impacts**' from the specific impacts of the proposed project ... The regulation does not limit the inquiry to the **cumulative impacts** that can be expected from the proposed project; rather, the inquiry also extends to the effects that can be anticipated from 'reasonably foreseeable future actions.' In other words, when deciding the significance of a single proposed action (i.e., whether to prepare an EIS at all), a [broad] analysis of **cumulative impacts** is required."

Thomas v. Peterson
the Yaak Committee v. Block

753 F.2d 1276 (9th Cir. 1985)
840 F.2nd 714 (9th Cir. 1988)

Both of these cases involved a Forest Service attempt to construct roads without any environmental documentation on the impacts of the logging connected with the roads or any comprehensive EIS to which it could tier. The Forest Service began construction before even an EA was prepared. Court held that logging construction and the road construction are connected actions. That is, an EIS associated with the proposed logging must also include the access road as part of the proposed action in analyzing environmental impacts.

Park County Resource Council, Inc v. Dep't of Agriculture

Civ. No. 85-2000 (10th Circuit Court, 4/17/1987)

Upholds district court judgment on EA adequacy.

> "It is the agency's responsibility to initially determine the need for an EIS ... An EA allows the agency to consider environmental concerns, while reserving agency resources to prepare full EIS's for appropriate cases. If a finding of no significant impact is made after analyzing the EA, then preparation of an EIS is unnecessary.
>
> "Based on [an] EA, BLM determined that [the agency] does not usually require prior preparation of an EIS. [The court's responsibility] is to examine whether the agency's conclusion that its actions will have no significant environmental consequences was a reasonable one.
>
> "NEPA's goal is not to generate paperwork evaluating speculative possibilities that the odds favor will never occur. 'An EIS need not be prepared simply because a project is contemplated, but only when the project is proposed.
>
> "This is not to say that drilling or development at a single site will never require an overall assessment. On the contrary, an APD for a specific site may trigger the need for a broader based EIS, evaluating both the past and future environmental effects of site-specific drilling, as well as the cumulative effects of drilling a particular site in light of other regional

development.

"The tiered approach to environmental review ... is calculated to provide the most informed decision making possible in oil and gas leasing. When BLM is considering a mere leasing proposal, it has no idea whether development activities will ever occur, let alone where they may occur in the lease area. When an APD is submitted, BLM then has a concrete, site-specific proposal before it and a more useful environmental appraisal can be undertaken... In short, the specificity that NEPA requires is simply not possible absent concrete proposals." [See Connor v. Burford, DC, MT, 3/12/1985, (p. 39).]

Oregpm Natural Resources Council v. Marsh

832 F. 2d 1489 (9th Ciruit Court. 1987)
(Revised on other grounds [1989])

This case concerned the building of a three stage flood control project in the Rogue River Basin, Oregon. Two of the dams had already been completed. The EIS for the third dam was challenged for failure to analyze adequately the cumulative impacts of the dam in light of the impacts caused by the first two dams. It was held that damage caused by the third dam had to be cumulatively added to the first two dams. In order to disclose the realistic impacts of the entire project, the Corpe of Engineers must look at the impacts caused by the third dam as these impacts supplement or add to the impacts already caused by the first two dams.

Sierra Club v. Forest Service
(9th Circuit Court, 4/15/1988)

This district court decision reverses district court decision to deny appeal for injunction based on inadequate EAs prepared for eight separate timber sales.

In the original court case [843 F.2d 1190 (9th Cir. 1988)] plaintiff challended 9 timber sales, 8 of which had EAs, but no final EIS. The Forest Service concluded FONSI for the 8 while categorically excluding the other. Five of the 9 areas contained giant sequoia redwood trees, which were to be saved in the modified clearcutting proposal. This lower court simply found that the parties differed in opinion on how forest was to be managed. The 9th Cir. Court reversed the decision of the lower court on the grounds that it did not discuss cumulative impacts (adequately or at all). Resources possibly subject to cumulative impacts were: 1) wildlife habitat, 2) watersheds and soils, 3) recration and aesthetics, 4) fisheries. (The Forest Service discussed cumulative impacts in a draft EIS but EAs did not incorporate these discussions. Be sure to tier EAs to programmatic EIS, where applicable and remember that significance determination requires cumulative impact analysis.)

> "CEQ regulations outline factors that an agency must consider in determining whether an action 'significantly' affects the environment within the meaning of section 102(2).(C)). These factors include ... (1) the 'degree to which the effects on the quality of the human environment are likely to be highly controversial ...'; (2) the 'degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks ...'; (3) 'whether the action is related to other actions with individually insignificant but **cumulatively significant** impacts ...'; and (4) 'whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment...'
>
> "The standard to determine if an action will significantly affect the quality of the human environment is 'whether the plaintiff has alleged facts which, if true, show that the proposed project may significantly degrade some human environmental factor.' 'A determination that significant effects on the human environment will in fact occur is not essential.' 'If substantial questions are raised whether a project may have a significant effect on the human environment, an EIS must be prepared.'"
>
> "(The) testimony (in this case) leads to speculation on potential **cumulative effects**. The purpose of an EIS is to obviate the need for such speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action."

LaFlamme v. Federal Energy Regulatory Commission
(9th Circuit Court, 3/18/1988)

Nullifies FERC orders granting power project operating license without NEPA compliance considerations.

> "The basis for FERC's conclusion that the project will not significantly affect the quality of the human environment, and therefore not require preparation of an EIS, can only be ascertained by reviewing the voluminous agency record. This kind of basis for an agency's decision not to prepare an EIS is precisely what NEPA was intended to prevent.
>
> At no point did the EIS (FERC's report tiers from) analyze the effects other projects, pending or otherwise, might have on this section of the American River Basin. Such a narrow analysis of one project's impact ... cannot possibly provide the necessary broad consideration of all 'past, present and reasonably foreseeable future actions' required in a **cumulative impact analysis.** (FERC) examined the ... project in isolation, without considering the 'net' impact that all projects in the area may have on the environment."

SIERRA CLUB V. PENFOLD
857 F.2d 1307 (9th Circuit Court, 1988)

This case challenged BLM's failure to include cumulative impact analysis of placer mining activities in four watersheds in Alaska. The court held that cumulative impact analysis was required. Evidence presented in court suggested that while individual mining operations might not be causing significant adverse environmental impacts, mining activity by several mines in the area or in the same watershed were cumulatively causing, or had the potential of causing significant environmental effects.

SOUTHWEST RESOURCE COUNCIL

IBLA 86-1217 Decided March 10, 1987

Appeal from a decision of the District Manager, Arizona Strip District, Bureau of Land Management, approving a plan of operations for the Pinenut Project. AS 010-86-047.

Affirmed.

1. Mining Claims: Environment--National Environmental Policy Act of 1969: Environmental Statements

   A finding that a proposed uranium mining operation will not have a significant impact on the human environment and, therefore, that no environmental impact statement is required, will be affirmed on appeal when the record establishes that relevant areas of environmental concern have been identified and the determination is the reasonable result of environmental analysis made in light of measures to minimize environmental impacts.

2. National Environmental Policy Act of 1969: Environmental Statements

   A regional environmental impact statement is required in only two instances: (1) when there is a comprehensive Federal plan for the development of a region, and (2) when various Federal actions in a region have cumulative or synergistic impacts on a region.

3. Federal Land Policy and Management Act of 1976: Surface Management--Mining Claims: Surface Uses

   Application of the "unnecessary or undue degradation" standard presumes the validity of the use which is causing the impact and seeks to determine whether the impact is greater than should be expected to occur if the activity were conducted by a prudent operator in the usual, customary, and proficient conduct of similar operations.

4. Federal Land Policy and Management of 1976: Surface Management--Mining Claims: Surface Uses

   When BLM determines, after such notice and opportunity for hearing as may be required by due process, that a mining claim is not

supported by a discovery of a valuable mineral deposit, it may declare that mining claim null and void and reject a proposed plan of operations submitted for that claim.

OPINION BY ADMINISTRATIVE JUDGE BURSKI
96 IBLA 105

HEADWATERS, INC., ET AL.

IBLA 87-477 Decided February 29, 1988

Appeal from a decision by the Oregon State Director, Bureau of Land Management, declining to prepare a supplemental environmental impact statement to examine the effects of timber harvesting on spotted owl habitat sites.

Affirmed.

1. Administrative Procedure: Generally--Environmental Policy Act--Environmental Quality: Environmental Status-National Environmental Policy Act of 1969: Environmental Statements. The Board of Land Appeals has jurisdiction to review a decision by BLM riot to prepare a supplemental environmental impact statement 40 CFR 1502.9(c)(1)(ii).

2. Administrative Procedure: Generally--Appeals: Jurisdiction--Board of Land Appeals contests and Protests: Generally-Rules of Practice: Protests.

   Challenges to the approval or amendment of a resource management plan and its related environmental impact statement are accorded administrative review only in conformity with the protest procedures prescribed by 43 CFR Part 1600.

3. Administrative Procedure: Generally--Appeals: Jurisdiction--Board of Land Appeals-Rules of Practice: Appeals: Generally

   As an appellate tribunal, the Board of Land Appeals does not exercise supervisory Authority BLM except in the context of an actual case in

controversy over which the Board has jurisdiction. The Board will not consider challenges to policy statements issued by BLM, or give opinions on abstract propositions.

4. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental statements

BLM's decision not to prepare a supplemental environmental impact statement in accordance with 40 CFR 1502.9(c)(1)(ii) will be affirmed if such decision is reasonable, depending upon such factors as (1) the environmental significance of the new information, (2) the probable accuracy of the information, (3) the degree of care with which it considered the information and evaluated its impact, and (4) the degree to which BLM supported its decision not to supplement with a statement of explanation or additional data.

OPINION BY ADMINISTRATIVE JUDGE KELLY
101 IBLA 234

IN RE LONG MISSOURI TIMBER SALE

IBLA 87-650 Decided December 12, 1988

Appeal from a decision of the District Manager, Medford District Office, Bureau of Land Management, denying a protest of proposed sale OR-110-TS7-23.

Affirmed.

1. Timber Sales and Disposals

A BLM decision denying a protest of a proposed timber sale will not be disturbed on appeal where the appellant's objections to BLM's determination to proceed with the sale are carefully considered by BLM and the appellant fails to establish that BLM did not adequately consider matters of environmental concern, such as the impact on stream quality, visual resources, and cumulative impacts of past and reasonably foreseeable future timber sales.

2. Timber Sales and Disposals

A charge that BLM failed to consider in its environmental assessment reasonable alternatives to a proposed timber sale will be rejected where the record shows that the environmental assessment, and preceding environmental documents, adequately addressed appropriate alternatives. BLM is not required to discuss every conceivable alternative which could be devised. A mere disagreement or a difference of opinion as to a proper alternative will not suffice to establish error in BLM's choice of alternatives.

OPINION BY ADMINISTRATIVE JUDGE HARRIS
106 IBLA 83

MICHAEL GOLD ET AL.

IBLA 86-1575 Decided April 24, 1989

Appeal from a decision of the Farmington Area Manager, Bureau of Land Management, approving an application for permit to drill. NM 28709.

Set aside and remanded.

1. Environmental Policy Act--Environmental Quality: Environmental Statements--Oil and Gas Leases: Drilling

The categorical exclusion found at 516 DM 6, Appendix 5.4D(2)(d), from the NEPA process, applies only to exploratory wells and not to development wells.

2. Environmental Policy Act-Environmental Quality: Environmental Statements--Oil and Gas: Drilling

Where an environmental assessment prepared for consideration of an APD is deficient in its discussion of possible effects of the proposed action wildlife, fails to discuss relevant mitigation measures, and does not document the reasons why it rejects various alternatives to the

proposed action, approval of the APD based on such an assessment must be set aside.

3. Environmental Policy Act--Environmental Quality: Environmental Statements--Oil and Gas Leases: Drilling

Under the decision of the Court of Appeals for the Tenth Circuit in Park County Resource Council, Inc. v. United States Department of Agriculture, 817 F.2d 609 (1.987), where an initial exploratory well has been successfully drilled and a lessee files an APD for additional development wells, the filing of the APD triggers the requirement for an Environmental Impact Statement, unless an Environmental Impact Statement has already been prepared which analyzes the impacts that can be expected from full field development.

106 IBLA 231

COLORADO ENVIRONMENTAL COALITION ET AL.

IBLA 89-56 Decided March 20, 1989

Appeal from a decision of the State Director, Colorado, Bureau of Land Management, affirming decision of the Area Manager, San Juan Resource Area, Colorado, Bureau of Land Management, approving application for permit to drill. C-12052.

Motion to dismiss denied; request for stay denied; BLM decision reversed.

1. Administrative Procedure: Administrative Review-- Appeals: Generally--Rules of Practice: Appeals: Dismissal

The Board will not dismiss as moot an appeal from a BLM decision approving an application for a permit to drill within a designated resource protection zone surrounding units of the Hovenweep National Monument, even though the well has been drilled, plugged, and abandoned, where the appeal presents a significant issue regarding the adequacy of BLM's assessment of the environmental impact of approving the application, and the record indicates the issue is likely to recur within the protection zone.

2. Environmental Quality: Environmental Statements-- National Environmental Policy Act of 1969: Environmental Statements--Oil and Gas Leases: Drilling

A BLM decision approving an application for a permit to drill within a designated resource protection zone surrounding units of the Hovenweep National Monument will be reversed where, in the course of its assessment of the environmental impact of proposed drilling and associated road improvement activity, BLM failed to consider the potential cumulative impact of such activity in conjunction of wells and associated road improvement activity within the protection zone.

108 IBLA 10

SAN JUAN CITIZENS ALLIANCE
WESTERN COLORADO CONGRESS

IBLA 88-667 Decided May 24, 1990

Appeal from the Colorado Deputy State Director, Mineral Resources, Bureau of Land Management, Affirming the approval of an application for permit to drill a coal-bed methane well and denying a request to stay that approval. C-16942.

Dismissed.

1. Appeals: Generally--Rules of Practice: Appeals: Dismissal

An appeal is generally dismissed as moot, where, as a result of events occurring after the appeal is filed, there is no effective relief which the Board can afford the appellant. However, the Board does not automatically dismiss every case where the action sought to be prevented by the filing of an appeal has taken place; we have recognized that dismissal of a particular appeal may not be warranted in a circumstance where the appeal presents a recurring issue and dismissal of the appeal would tend to preclude the issue from ever being reviewed.

2. Application for Permit to Drill--Environmental Quality: Environmental Statements-Oil and Gas Leases: Drilling--Rules of Practice: Appeals: Dismissal

Where, on appeal, the principal objection to issuance of an application for permit to drill a coal-bed methane well is the failure to consider the cumulative impacts of drilling the well in question in conjunction with other proposed coal-bed methane drilling in the same area, the appeal may be dismissed as moot, where the record shows that the well has been drilled and the surface managing agency and BLM have under taken an environmental analysis designed to assess the cumulative impacts of such proposed drilling

114 IBLA 366

OREGON NATURAL RESOURCES COUNCIL

IBLA 88-612 Decided July 3, 1990

Appeal from a decision of the Clackamas Resource Area Office, Bureau of Land Management, denying a protest to a timber sale and awarding the sale contract. OR-080-TS8-028

Affirmed.

1. Timber Sales and Disposals

A BLM decision denying a protest of a proposed timber sale will not be disturbed on appeal where appellant fails to establish that BLM did not adequately consider matters of environmental concern, such as the threat of soil erosion posed by road building and the cumulative impacts of continued timber harvesting, and appellant has failed to meet its burden of showing error in the BLM decision.

OPINION BY ADMINISTRATIVE JUDGE KELLY

115 IBLA 179

IN RE GRASSY OVERLOOK TIMBER SALE

IBLA 89-192 Decided August 14, 1990

Appeal from a decision of the Tillamook Resource Area Manager, Oregon, Bureau of Land Management, denying protest against Grassy Overlook timber sale. OR-080-TS88-711.

Affirmed.

1. Administrative Procedure: Burden of Proof--Federal Land Policy and Management Act of 1976: Land-Use Planning--Rules of Practice: Appeals: Burden of Proof--Timber Sales and Disposals

   A BLM decision regarding competing uses of public land that is based on a consideration of all relevant factors and is supported by the record will not be disturbed on appeal absent a showing of clear reasons for modification or reversal. When an appellant has challenged a timber sale located in an area of critical environmental concern on the basis that the sale is allegedly inconsistent with the applicable management plan, but such inconsistency has not been established, the timber sale shall be allowed to occur.

2. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--Timber Sales and Disposals

   A determination that a proposed action will not have a significant impact on the quality of the human environment will be affirmed on appeal if the record establishes that a careful review of the environmental problems has been made, relevant areas of environmental concern have been identified, and the final determination is reasonable. The party challenging the determination must show that the determination was premised on a clear error of law, a demonstrable error of fact, or that the analysis failed to consider a substantial environmental question of material significance. Mere differences of opinion provide no basis for reversal if BLM's decision is reasonable and supported by the record

on appeal.

3. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--Timber Sales and Disposals

A decision to proceed with a timber sale will not be reversed due to an alleged failure to consider cumulative impacts in the sale EA where the EA is tiered to a programmatic EIS which adequately considered the cumulative impacts.

OPINION BY ADMINISTRATIVE JUDGE KELLY

115 IBLA 359 & 360

OREGON NATURAL RESOURCES COUNCIL

IBLA 90-253, ET AL. Decided November 5,1990

Appeals from decisions of Resource Area and District Offices, Oregon, Bureau of Land Management, denying protests of timber sales. OR-120-TS90-27, et al.

IBLA 90-393 dismissed; decisions in IBLA 90-328, 90-346, 90-367, 90-397, and 90-439 set aside and remanded; all other decisions affirmed.

1. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--Timber Sales and Disposals

BLM properly denies a protest to a proposed timber sale where it has, in the course of its entire presale environmental review, fully considered all of the probable environmental impacts, both site-specific and cumulative, of the sale and concluded that no significant environmental impact will result which has not already been considered in an applicable environmental impact statement, and the appellant has failed to demonstrate otherwise.

2. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--Timber Sales and Disposals

Where, following a BLM decision denying a protest to a proposed timber sale and an appeal thereof, the U.S. Fish and Wildlife Service, the Board will set aside the BLM decision and remand the case to BLM for further review of the effect of the listing.

3. Timber Sales and Disposals

A series of approved timber sales will not be considered to constitute a taking of a migratory bird prohibited by sec. 2 of the Act of July 3, 1918, as amended, 16 U.S.C. § 703 (1988), where there is no evidence that the cutting of old-growth timber so degrades the environment as to lead to the death of any migratory bird.

4. Federal Land Policy and Management Act of 1976: Generally--Oregon and California Railroad and Reconveyed Coos Bay Grant Lands: Timber Sales--Timber Sales and Disposals

Allowing the harvesting of timber on O & C lands does not violate the broad principle of multiple use management governing BLM's actions under the Federal Land Policy and Management Act of 1976, as amended, 43 U.S.C. §§ 1701-1784 (1988), where such land is, instead, to be managed for permanent forest production pursuant to the Act of August 28,1937, as amended, 43 U.S.C. §§ 1181a-1181f (1988).

OPINION BY CHIEF ADMINISTRATIVE JUDGE HORTON

116 IBLA 356